

REMARKS

Applicant submits herewith new art in a Supplemental Information Disclosure Statement. Applicant submits new claims 64-102 in the present application. Pending claims 64-76, 79, 81-87, 89, 91, 93, 95, 97, and 99 correspond to claims 1-13, 18-26 and 57-62 examined in the Office Action dated October 26, 2002 (referred to herein as the Office Action unless indicated otherwise) plus new dependent claims 77, 88, 90, 92, 94, 96, 98 and 100. New claim 101 corresponds to claim 63 examined in the May 31, 2002 Office Action. Applicant has presented new claim numbers for the previously pending claims inasmuch as many of the claims were canceled.

Applicant appreciate the indication that claims 81-82, 84-86, 89, and 97 corresponding to previously pending claims 19-20, 22-24, 26 and 60 were indicated to recite allowable subject matter.

The Office Action stated that claims 66, 76, 83, 87, 91, 93, 95, and 99 corresponding to previously pending claims 3, 13, 21, 25, 57-59, and 61 do not read on the elected species of Fig. 3 and the claims have been withdrawn from consideration. Claims 70-72 corresponding to previously pending claims 7-9 were rejected for indefiniteness in the Office Action. Claims 64, 79 and 77 corresponding to previous claims 1, 18 and 62 were rejected for anticipation by Nagayama et al. in the Office Action. Claims 64-65, 67-70, 75, 79, and 77 corresponding to previously pending claims 1-2, 4-7, 12, 18 and 62 were rejected for anticipation by Smith. Claims 73-74 corresponding to previously pending claims 10-11 were rejected for obviousness over Smith.

Applicant requests allowance of all pending claims.

Applicant disagrees with the withdrawal of claims 3, 13, 21, 25, 57-59 and 61 from consideration. In paragraph 2 on page 2 of the Office Action, it is stated that it appears that contact plate 90 does not have support by Figs. 2-3. It is further stated that claims 3, 13, 21, 25 and 57-59 do not read on the elected species of Fig. 3. The withdrawal of the claims is improper for at least the following reasons.

According to M.P.E.P. §806.04(f) (8d), it is stated that *claims to be restricted to different species must be mutually exclusive*. The general test as to when claims are restricted, respectively, to different species is the fact that one claim recites limitations which under the disclosure are found in a first species but not a second, while a second claim recites limitations disclosed only for the second species and not the first. This is frequently expressed by saying that *claims to be restricted to different species must recite the mutually exclusive characteristics of such species*. The withdrawn claims directed to the contact plate 90 are not mutually exclusive from the claims drawn to the device of Fig. 3 as required under the M.P.E.P. In particular, referring to the express teachings of the originally filed application at page 21, lines 3-5, it is stated that contact plate 90 in one possible embodiment includes circuitry 95 configured to provide electrical connection with *electrical couplings of chuck 40*. Accordingly, *contact plate 90 is configured to electrical couple with chuck 40 depicted in Fig. 3*. *Contact plate 90 may be coupled with a lower surface of chuck 40 independent of whether or not an intermediate member 60 is utilized*. Fig. 10 further depicts the coupling of contact plate 90 with chuck 40. In no fair interpretation are the claims directed to a contact plate mutually exclusive from claims drawn to the species of Fig. 3. To the contrary, it is clearly supported in the originally filed

application that contact plate 90 may be utilized with structure of Fig. 3. In no fair interpretation do the withdrawn claims recite mutually exclusive limitations of the claims drawn to the device of Fig. 3. In accordance with the test set out in M.P.E.P. §806.04(f), claims 3, 13, 21, 25, 57-59 and 61 were inappropriately withdrawn.

In fact, paragraph 2 on page 2 of the Office Action sets forth that such withdrawn claims do not have support by Figs. 2-3. Such is not the test for determining species as clearly outlined in M.P.E.P. 806.04(f). Inasmuch as the withdrawn claims do not recite mutually exclusive characteristics of any species, let alone limitations which are mutually exclusive of the device of Fig. 3, the withdrawal of such claims is improper. Applicant respectfully requests examination of claims 3, 13, 21, 25, 57-59 and 61 for at least this reason.

On page 2, paragraph 2 of the Office Action, it is stated that in claim 67, it appears that the workpiece holder includes a vacuum chamber and this limitation is limited to species of Fig. 2 because the workpiece holder 12 of Fig. 3 does not have a vacuum chamber. Applicant is unclear as to which claim the Examiner refers inasmuch as there was no claim 67 pending during the Office Action. Claim 91 corresponding to previously pending claim 57 recites a workpiece holder including a vacuum chamber. The Examiner is mistaken in stating that the limitation of the workpiece holder includes a vacuum chamber is limited to the species of Fig. 2. Further, the statement that workpiece holder 12 of Fig. 3 does not have a vacuum chamber is incorrect. The device of Fig. 3 clearly contemplates the workpiece holder including a vacuum chamber adapted to receive a vacuum to couple a received electronic device workpiece with a workpiece holder.

Applicant refers the Examiner to the express teachings regarding the device of Fig. 3 set forth on page 14, lines 15-16 of the originally filed specification wherein it is stated that a vacuum can be utilized to couple workpiece 20 with intermediate member 60. In no fair interpretation does new claim 91 recite limitations which are mutually exclusive of the device of Fig. 3. In fact, the express teachings of the originally filed application illustrate that such characteristics are not mutually exclusive inasmuch as the workpiece holder depicted in Fig. 3 may include vacuum chambers to receive a vacuum to couple the workpiece. Applicant respectfully requests examination of the withdrawn claims and allowance for at least the reasons discussed herein. The withdrawn claims do read on the device of Fig. 3 and do not recite limitations which are mutually exclusive from the device of Fig. 3. Accordingly, the claims were inappropriately withdrawn from consideration, and examination and allowance of such claims is requested.

Nonetheless, the Examiner refused to allow previous claims 21 and 25 (now claims 83 and 87) following Applicant's Office Action response of January, 2002 and as indicated in the May 31, 2002 Office Action. Applicant refers the Examiner to M.P.E.P. 806.04(d) wherein it is stated that all *claims drawn to species in addition to the elected species which include all the limitations of the generic claim will ordinarily be obviously allowable in view of the allowance of the generic claim since the additional species will depend thereon or will otherwise include all limitations thereof*. Accordingly, all claims which depend from an allowed independent are allowable and Applicant requests allowance of claims 83 and 87 corresponding to previously pending claims 21 and 25.

Turning to the indefiniteness rejections of claims 70-72 corresponding to previously

pending claims 7-9, Applicant submits that such claims are definite and understood by one of ordinary skill in the art as required by 35 U.S.C. §112, second paragraph. It is stated in paragraph 3 on page 2 of the Office Action that the wafer chuck is not part of the wafer holder since Applicant defines a wafer holder as a workpiece holder as shown in Fig. 3 does not have a wafer chuck 40 therefore they are improperly claimed. Such rejection of claims 70-72 is nonsensical. With respect to 35 U.S.C. §112, second paragraph, the test is whether the language is definite to one of ordinary skill in the art. Claim 70 depends directly from claim 64 wherein a wafer holder is claimed with no specific configuration. Claim 70 and claim 71 further recite exemplary configurations of the wafer holder as comprising a chuck. Such claims are definite and understood by one of ordinary skill in the art especially in consideration of the teachings of page 7, lines 1-3 of the originally-filed specification. Applicant respectfully requests withdrawal of the indefiniteness rejection for at least this reason.

Referring to the prior art rejections of the Office Action, Applicant notes that the Examiner failed to address arguments presented with respect to the Nagayama anticipation rejection set forth in the previous Office Action Response dated September 26, 2001 responding to the Office Action dated June 26, 2001. The language set forth in paragraph 5, on page 3 of the Office Action sets forth the same arguments in paragraph 5 on page 4 of the Office Action dated June 26, 2001 with no reference to Applicant's previously filed arguments. Applicant filed arguments clearly illustrating why claims 64, 79, and 77 corresponding to previously pending claims 1, 18 and 62 were not properly rejected over Nagayama.

Applicants respectfully assert that the Office Action clearly fails the regulatory mandate of 37 CFR 1.104(c)(2) requiring that the pertinence of each reference, if not apparent, must be clearly explained. Applicants previously asserted that the pertinence of Nagayama was not apparent and no explanation has been provided to date. Accordingly, Applicants request a basis for applying any reference to the pending claims if such claims are not found to be allowable.

Additionally, Applicants respectfully assert that the Office Action clearly fails the regulatory mandate of 37 CFR 1.104(b) that the examiner's action will be complete as to all matters. Applicants previously asserted several grounds for allowance that have not been addressed to date.

Applicants described with particularity in a prior response the apparent erroneous listing of art or lack of any basis for applying such art to the pending claims. Applicants also described grounds for allowance of claims 64 and 79 corresponding to previous claims 1 and 18 that have not been addressed. Rather, the rejections of the Office Action with respect to Nagayama merely repeat word-for-word the rejections of the previous Office Action.

M.P.E.P. §706.07 (8th ed.) states that the examiner should never lose sight of the fact that in every case the applicant is entitled to a full and fair hearing, and that a clear issue between applicant and examiner should be developed, if possible, before appeal. Clearly, it is possible for the Examiner either to develop a clear issue between the Applicant or to allow the claims if the Examiner will correct the noted errors, consider all arguments, and respond to all arguments. Presently, the record for appeal is poor due to

the deficiencies of the prior Office Actions. The Office Action fails to follow the enumerated requirements of M.P.E.P. §706.07. Previously filed arguments are presented again below for the Examiner's convenience and consideration. Allowance of the claims over Nagayama is respectfully requested.

Referring to independent claim 64 corresponding to previously pending claim 1, a wafer processing apparatus comprises a wafer holder adapted to receive a wafer having an electrical coupling and the wafer holder including an electrical coupling configured to electrically couple with the electrical coupling of the wafer and communicate signals between the wafer and the wafer holder. Claim 64 recites patentable subject matter over Nagayama.

Paragraph 5 on page 3 of the Office Action identifies teachings which allegedly correspond to limitations of independent claim 64. It is stated that the wafer holder 51 includes electrical couplings 57-63 for coupling to the wafer. Thereafter, it is stated that it appears that the wafer *inherently* has electrical coupling in which the electrical couplings of the holder connected thereto. Applicant asserts the teachings of the Nagayama reference fail to anticipate or render obvious positively recited limitations of claim 64.

Referring to the teachings in column 2, line 57 to column 3, line 50, exemplary operations of components 57-63 of Nagayama are described. Voltage sources 59 and 60 are operable to apply respective positive and negative DC voltage to an internal electrode 53. It is stated that negative charges are induced to the surface of wafer 54 upon connection of DC power source 60. An RF power source 63 is connected to the wafer stage 55 to apply an RF bias producing ion energy. DC power source 59 is connected to

electrode 53 to apply a positive DC voltage shown in Fig. 1B.

Such teachings illustrate inducement of an electric charge upon a surface of wafer 54 and application of RF bias during etching. It is clearly stated that electrode 53 is buried within insulation member 52. Such construction fails to teach or suggest an electrical coupling of the wafer holder configured to electrically couple with the electrical coupling of the wafer. Mere inducement of surface charge upon a surface of a wafer fails to teach or suggest an electrical coupling of a wafer holder being configured to electrically couple with an electrical coupling of the wafer.

Further, such teachings fail to disclose or suggest *communication of signals between the wafer and the wafer holder* as specifically defined in claim 64. Inducement of negative charge upon the surface of the wafer 54 holds the wafer upon chuck 51 by a coulomb force. The RF source provides RF bias producing predetermined incident ion energy. Such teachings in no fair interpretation disclose or suggest communication of signals between the wafer and the wafer holder as recited in claim 64. Claim 64 recites limitations not shown or suggested in the prior art of record and is in condition for allowance for at least this reason.

In addition, Applicant objects to the statement that the wafer inherently has electrical coupling. In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flows from the teachings of the applied prior art. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). No structure corresponding to an electrical coupling of the wafer is disclosed, suggested, or necessarily

flows from the teachings of the prior art. The Nagayama reference merely discloses a wafer with no structure corresponding to the positively claimed electrical coupling of the wafer. Claim 64 is patentable over the prior art for at least this additional reason.

Claim 64 was previously rejected over Smith. Applicant submits herewith literature from P. Van Zant, "Microchip Fabrication," (4th ed. 2000). Such clearly illustrates the differences between a wafer and a singulated die to clarify the claimed subject matter and what Smith discloses.

As set forth on page 3 of the Office Action, Smith discloses a singulated bare die tester. As set forth in the abstract, Smith discloses a reusable test socket for testing singulated bare die. Smith is only related to testing of singulated bare dies. The Smith reference fails to teach or suggest the claimed *wafer processing apparatus* comprising the wafer holder adapted to receive a wafer. Applicant has electronically searched the embodiments of the detailed description of Smith and have failed to uncover any wafer teachings. The reference teachings of Smith concerning testing of testing of a singulated bare die in no fair interpretation disclose or suggest the positively recited wafer limitations of claim 64. Accordingly, Smith fails to teach or suggest limitations of claim 64. Claim 64 is patentable over the Smith reference for at least this reason. Claim 64 recites limitations not shown or suggested in all of the prior art of record and is allowable.

The claims which depend from independent claim 64 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Claim 73 corresponding to previous claim 10 stands rejected for obviousness.

Claim 73 recites an intermediate member adapted to couple with a chuck. The Office Action fails to identify any teachings of Smith which allegedly disclose or suggest the claimed intermediate member or chuck. Smith is devoid of any structure which may be fairly considered to disclose or suggest limitations of claim 73 and claim 73 is allowable for at least this reason.

Referring to M.P.E.P. §2143.01 (8<sup>th</sup> ed.), there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine reference teachings. The mere fact that references *can* be combined or modified does not render the resultant combination obvious *unless the prior art also suggests the desirability of the combination.* M.P.E.P. §2143.01 *citing In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Obviousness cannot be established by a combination of references unless there is some motivation in the art to support the combination. See *ACH Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The motivation for forming the combination must be something other than hindsight reconstruction based on using Applicant's invention as a road map for such a combination. See, e.g., *Interconnect Planning Corp. v. Feil*, 227 USPQ 543, 551 (Fed. Cir. 1985); *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990).

Contrary to Federal Circuit case law, the M.P.E.P., and PTO procedure, the Office Action fails to identify any motivation for modifying the Smith teachings to allegedly arrive at the rejection of claim 73. There is no motivation and the 103 rejection of claim 73 is improper for at least this additional reason.

The Federal Circuit recently discussed proper motivation *In re Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002). The Court in *In re Lee* stated the factual inquiry whether to combine references must be through and searching. It must be based on objective evidence of record. The Court in *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) stated motivation is provided only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art. The Lee Court stated that the Examiner's conclusory statements in the Lee case do not adequately address the issue of motivation. The Court additionally stated that the factual question of motivation is material to patentability and can not be resolved on subjective belief and unknown authority. The Court also stated that deficiencies of cited references can not be remedied by general conclusions about what is basic knowledge or common sense. The Court further stated that the determination of patentability must be based on evidence. In the instant case, the record is entirely devoid of any evidence of motivation. The 103 rejection of claim 73 is improper without the proper motivation and Applicants respectfully request allowance of claim 73 in the next action.

The undersigned hereby traverses and seasonably challenges the assertion pursuant to M.P.E.P. §2144.03 (8<sup>th</sup> ed.) that limitations of claims 73 and 74 corresponding to previously pending claims 10-11 are well known and requests that the Examiner cite a reference in support of his or her position. Applicant believes reasonable doubt exists regarding the Examiner's assertion of judicial notice.

The Examiner is reminded that the facts constituting the state of the art are normally subject to the possibility of rationale disagreement among reasonable men and are not

amenable to the taking of judicial notice. See *In re Eynde*, 480F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973). The Examiner is also reminded that method claims are analyzed in the context of the combination of the various separately stated elements, and not with respect to the elements individually. Pursuant to M.P.E.P. §2144.03 (8<sup>th</sup> ed.), Applicant hereby demands evidence with respect to what the Examiner apparently relies upon as being "well-known."

Independent claim 79 corresponds to previously pending claim 18 and recites a wafer processing apparatus comprising, in part, a wafer holder having circuitry configured to communicate a process signal from a received wafer and the process signal containing information regarding processing of the wafer. Claim 18 recites patentable subject matter over the prior art of record.

Mere inducement of a surface charge upon a wafer or application of an RF bias for etching fails to disclose or suggest the claimed wafer holder having *circuitry configured to communicate a process signal from a received wafer and the process signal containing information regarding processing of the wafer* as defined in claim 79. Electrical signals of Nagayama provide an attractive force of the wafer as well as RF bias energy for etching and fail to include any information regarding processing of a wafer. Claim 79 recites limitations not shown or suggested in Nagayama and claim 79 is patentable thereover.

Smith fails to disclose or suggest the claimed *wafer holder* having circuitry configured to communicate a *process signal from a received wafer* and the process signal containing *information regarding processing of the wafer* as recited in claim 79. Smith relates to singulated bare die teachings and fails to disclose any wafer teachings or

communication of the claimed process signal. Numerous limitations of claim 79 are not shown or suggested by Smith. Claim 79 recites patentable subject matter over Smith and Nagayama for at least the above-identified reasons.

The claims which depend from independent claim 79 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Claim 101 corresponds to previously pending claim 63 but also recites the intermediate member adapted to expose the electronic workpiece to a processing environment. Claim 101 was rejected over Malladi. Malladi fails to disclose or suggest the claimed electronic device workpiece processing apparatus or the intermediate member adapted to expose the electronic workpiece to a processing environment. As set forth in the abstract and field of the invention of Malladi, such relates to maintaining a junction temperature at a level during *normal operation of the chip*. Malladi fails to disclose or suggest the *workpiece processing apparatus or the intermediate member*. Claim 101 is allowable.

The claims which depend from independent claim 101 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

In the event that a rejection of the claims is maintained with respect to the prior art, or a new rejection made, Applicants respectfully request identification of elements which allegedly correspond to limitations of the claims in accordance with 37 C.F.R §1.104(c)(2). In particular, 37 C.F.R §1.104(c)(2) provides that *the pertinence of each reference, if not*

*apparent, must be clearly explained and each rejected claim specified.* Further, 37 C.F.R. §1.104(c)(2) states that the Examiner must cite the best references at their command. When a reference is complex or shows or describes inventions other than that claimed by Applicants, the particular teachings relied upon must be designated as nearly as practicable. The pertinence of each reference if not apparent must be clearly explained for each rejected claim specified. Applicants respectfully request clarification of the rejections with respect to specific references and specific references teachings therein pursuant to 37 C.F.R. §1.104(c)(2) if any claims are not found to be allowable.

Some of the new claims recite exposure of an electronic device workpiece or wafer to a processing environment. The new claims are supported by the originally filed application and the specification includes numerous teachings of processing workpieces and wafers. For example, page two of the application refers to chemically amplified resists which are utilized in deep ultraviolet (DUV) lithography and small micron geometries. Also on page 2, lines 8-12, it is stated that workpiece temperature and workpiece temperature uniformity are parameters which are closely monitored during wafer and workpiece fabrication. As set forth on page 4 of the specification, exemplary sensors include resistance temperature devices configured to provide process signals containing process information regarding the electronic device workpiece processing apparatus. As set forth on page 2, lines 22-24, temperature sensors across the surface of a wafer are utilized to provide temperature mapping of a workpiece during processing. On page 7, lines 13-19, it is stated that workpieces typically undergo processing from which subsequent devices are formed. Exemplary workpieces include semiconductor wafers, glass or quartz

substrates for flat panel or field emission display devices. It is also stated on page 7 that typical production workpieces are processed and subsequently utilized to form products used in a variety of electronic devices. On page 9, lines 4-8, it is stated that process signals provided by sensors 23 and corresponding to processing conditions of workpiece 21 are received within data gathering device 14. Alterations to processing conditions of apparatus 10 can be changed responsive to the reception of the process signals within device 14. On page 16, lines 7-9, it is stated that chuck 40 is isolated to a greater extent from a processing environment utilized to fabricate or process electronic device workpieces. On page 17, lines 3-6, it is stated that one configuration of apparatus 10 of Fig. 6 enables processing of production workpieces while monitoring processing conditions using calibration workpiece 20. Referring to page 19, lines 12-19, it is stated that layer 28 operates to protect surface 21, sensor 23, and electrical connection 27 from the processing environment including gases, chemicals, plasmas, etc. utilized during processing of electronic device workpieces.

Accordingly, the originally filed specification is replete with teachings of processing a workpiece, such as a wafer, within a workpiece processing apparatus to form at least one semiconductor device, processing a workpiece within the workpiece processing apparatus to form a semiconductor device, and providing a workpiece processing apparatus (see reference 10 of the originally-filed specification) adapted to process a workpiece to form a semiconductor device. The disclosure of the originally filed specification provides support for the claimed subject matter especially with reference to the disclosed exemplary embodiments of electronic device workpiece processing apparatus 10 and processing of

workpieces 20 as described in the originally filed specification. In addition, Applicant refers the Examiner to U.S. Patent Application Serial No. 09/032,184 incorporated into the subject application by reference as set forth on page 3, lines 9-15 of the originally filed specification. Serial No. 09/032,184 includes additional teachings providing support for the new claims.

Applicant submits herewith new prior art in a supplemental information disclosure statement.

Applicant also submits a previously filed Form PTO-1449 which includes references which have not been initialed by the Examiner. Applicant respectfully requests forwarding of the form including the Examiner's initials of the references to Applicant.

Applicant respectfully requests allowance of all pending claims.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: 9/3/02

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